Successful Methods

A Magazine of Construction Service

Published by SUCCESSFUL METHODS, Inc.

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141 Centre St., New York City, N. Y.

Vol. 7 — JULY, 1925 — No. 7

The End of the Job

WE have been living most of the time for the last eight months near the camp of a road contractor. We came to know every man on the job personally. We even know all the mules by sight. Recently the job was finished and the men broke camp for the last time. What a lot of human reactions came out those last few days! How much there was to show up the strength and the weaknesses of human characters!

From the start of the work, the state engineer and the contractor's superintendent had not hitched. Both were good men at their jobs. They just got off on the wrong foot toward each other. After that they drifted further and further apart. Pride prevented them from backing up a bit in the beginning. As a result, these two men parted enemies when they could easily have been friends. As enemies, they are a liability to each other. As friends they could have helped each other in many ways. Neither was more than half wrong, and certainly neither was more than half right.

Not only did these men work at odds clear through the job, but their differences certainly were reflected right down the line. The job was fairly well done. There was from the start, however, an air of friction and of suspicion in both organizations that cost the the contractor seriously. And it was just as evident that the state suffered, too. All this could have been avoided had each of the two heads been a little less cocksure that he knew more than the other fellow.

This experience was not unusual. Too often one finds that the engineer for the owner and superintendent for the contractor fail to pull together. In some cases there may be cause for trouble. But certainly most men are honest and fair. If appeal is made only to their qualities which make for trouble, then trouble will surely result. On the other hand, an effort to recognize that the other fellow is doing his best will nearly always get real cooperation.

Ordinary Care

ORDINARY wear and tear is a common expression on a construction job. It usually is taken to mean the effect on equipment of every day use. Ordinary care is an unusual expression. It would probably be interpreted to mean less than good care.

How fine it would be if we could get used to the idea that reasonable care—ordinary care—was just as much of a regular thing as ordinary wear and tear.

Few men handling machinery realize, however, that even the simplest piece of equipment should have more or less constant attention. General overhauling at times is customary on even the worst managed jobs. But there are few superintendents who insist that equipment be given the regular oiling and adjustment that it needs. Even those who do require such attention, have difficulty in finding men who have any mechanical sense.

With everything possible done by machinery these days, the situation requires that the superintendent who gets results must make sure that his machine runners look after their equipment properly. Most runners have to be shown how and when to lubricate and to adjust machines that are new to them. Once shown, it is the superintendent's job to check up regularly to see that instructions are being followed.

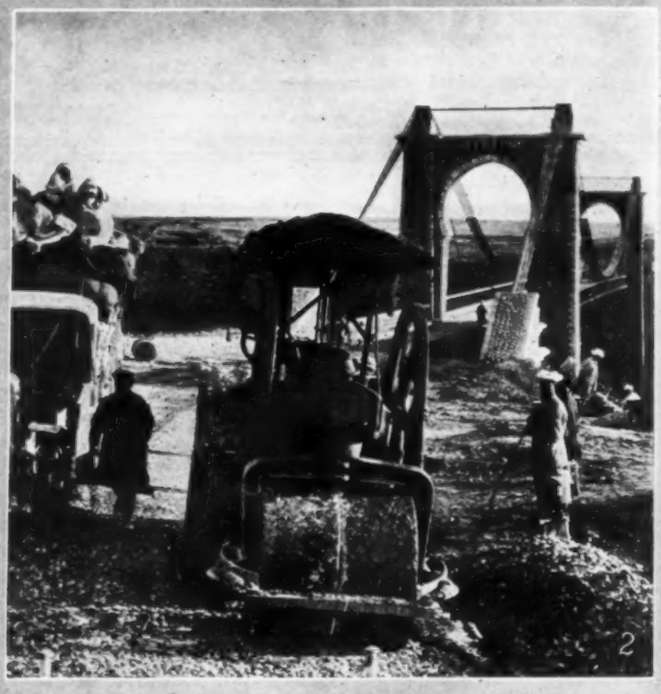
One organization weakness that crops out even in the best of large concerns is that a new man is not properly instructed about his machine. A piece of equipment may be giving fine service with an experienced runner. When he leaves, the new man too often is shown only the main features of the machine. He is rarely taught how to give his machine the ordinary care it needs all the time. The result is that his machine soon goes bad. Then he gets the blame, when it really should be laid to the man in charge of the job. It is up to him to be certain that his men know what they ought to do, and then to see that they do it.

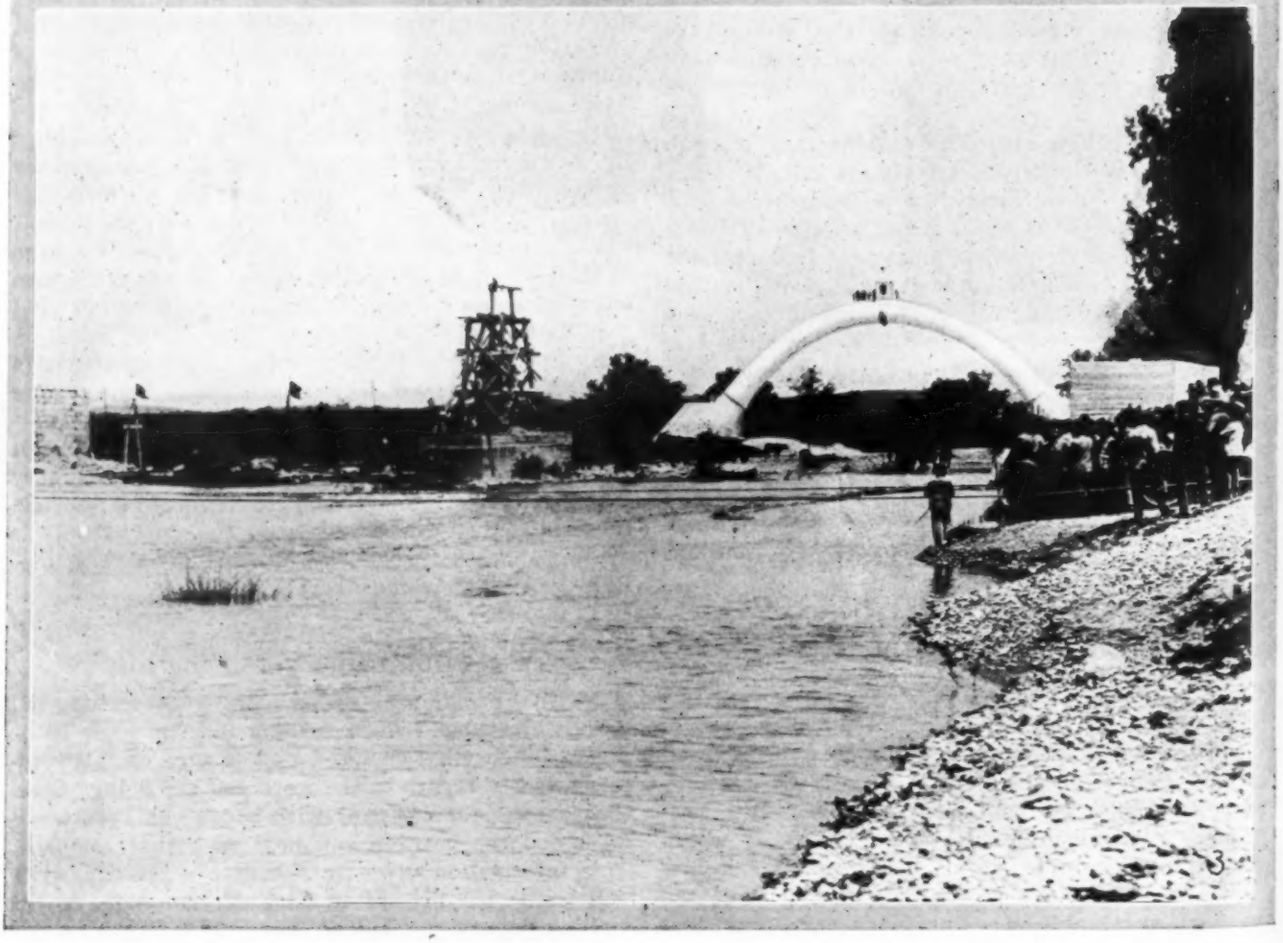
As the amount of equipment used on construction work increases, and with the increase comes more complicated machinery, this idea of constant care—ordinary care—must be driven home. Equipment builders are doing all they can to design machinery that requires a minimum of attention. But lubrication and adjustment will always be required. It is up to the superintendent to see to it that his equipment gets this ordinary care.

Successful Methods' Mailing List

EVERY name on SUCCESSFUL METHODS' mailing list is classified. So in sending in your name to be placed on the list, do not forget to give complete information in regard to the work you are doing. State the name of the company with which you are associated, and the position you hold with that company. This information given in the first letter you write will insure the prompt addition of your name to the mailing list and you will receive SUCCESSFUL METHODS each month free of charge.

Everyone Has Share



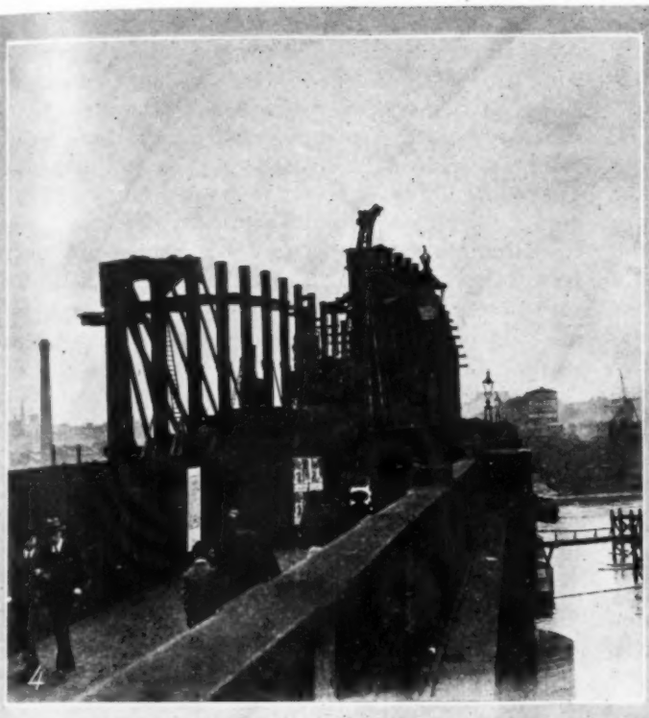


1. The First Lady of the Land, Mrs. Calvin Coolidge, laying the cornerstone of the Theodora Snow Memorial Hospital. © *International*

2. Road construction in Morocco. © *Ewing Galloway*

3. An unusual bit of waterworks construction in Spain.

In Construction



4. The new steel span for Waterloo Bridge, London, under construction. © *Keystone*
5. William Leider, the bricklayer who won a Phi Beta Kappa key for scholarship at Columbia University. © *International*
6. A steam shovel and a dog team at work on a June day clearing the way on the road up Mount Rainier in the State

LOS ANGELES IN MIDST OF BRIDGE BUILDING PROGRAM

Ninth Street Viaduct Now Nearing Completion Is First of Six Modern Structures Planned to Lessen Traffic Congestion

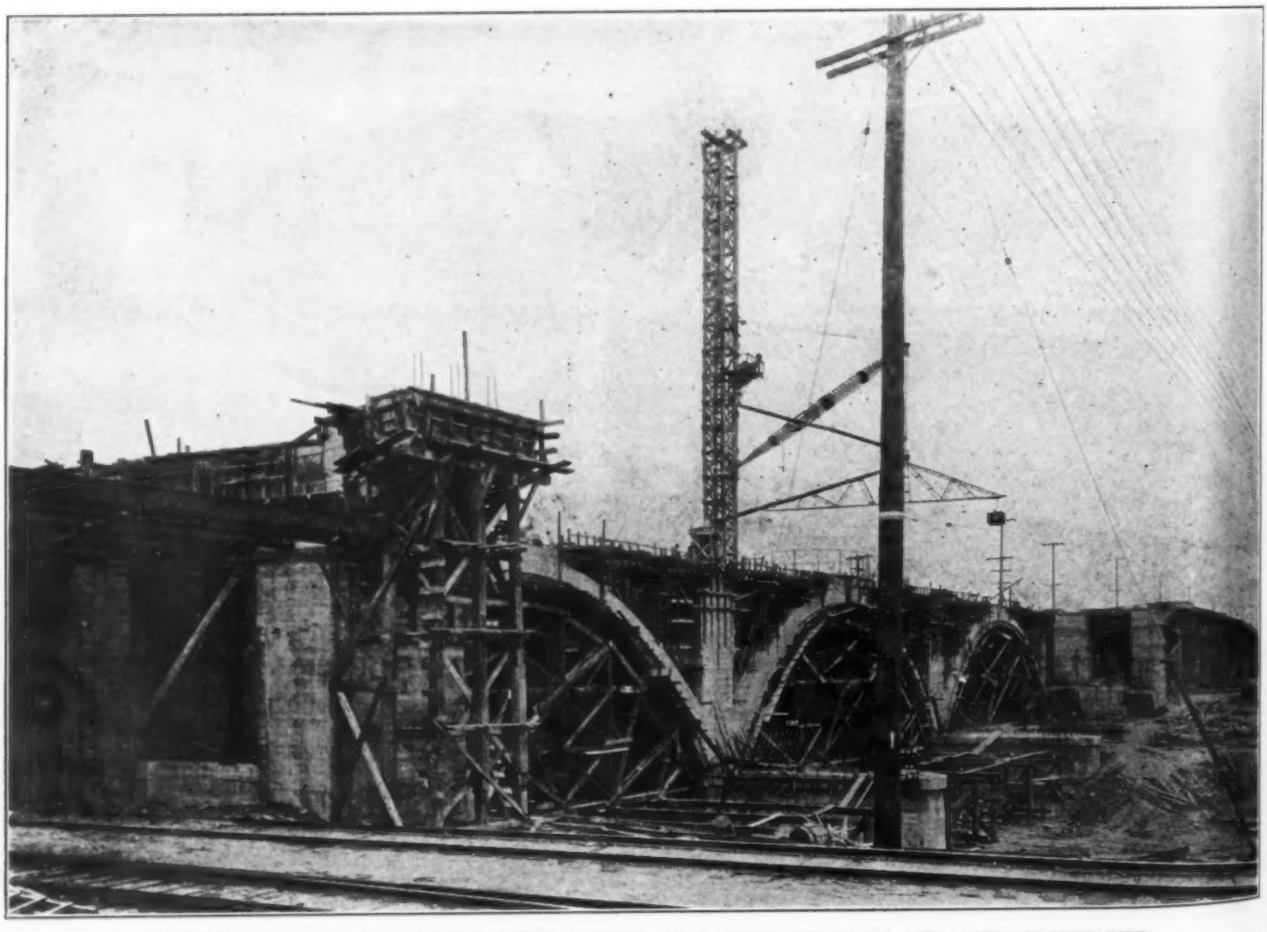
THE first of a number of new bridges and viaducts is nearing completion in Los Angeles. A bond issue carried in 1923 authorized the city to pay its share of the cost of the renewal of six bridges which carry important streets over the Union Pacific and Santa Fe tracks and the Los Angeles River. The railroads and the County of Los Angeles also are sharing in the expenses of this improvement which will cost in all about $10,000,000. The city's share of this amount will be $2,000,000.

The Ninth Street Viaduct, which will cost about $5,000,000, is being constructed by the North Pacific Construction Company, of which S. K. Mittry is president. It is a concrete structure 1780 ft. long and 75 ft. over-all in width. There are three 100-ft. arch spans and the bridge is about 60 ft. in height. It contains approximately 16,000 cu. yd. of concrete and 1,600,000 lb. of reinforced steel. The roadway will be 56 ft. in width with a 5-ft. sidewalk on either side. The excavations for the abutments were carried down to a depth of 40 to 45 ft., extending under the Union Pacific tracks on the east and the Santa Fe tracks on the west. Piles 25 ft. in length were driven before the steel was laid.

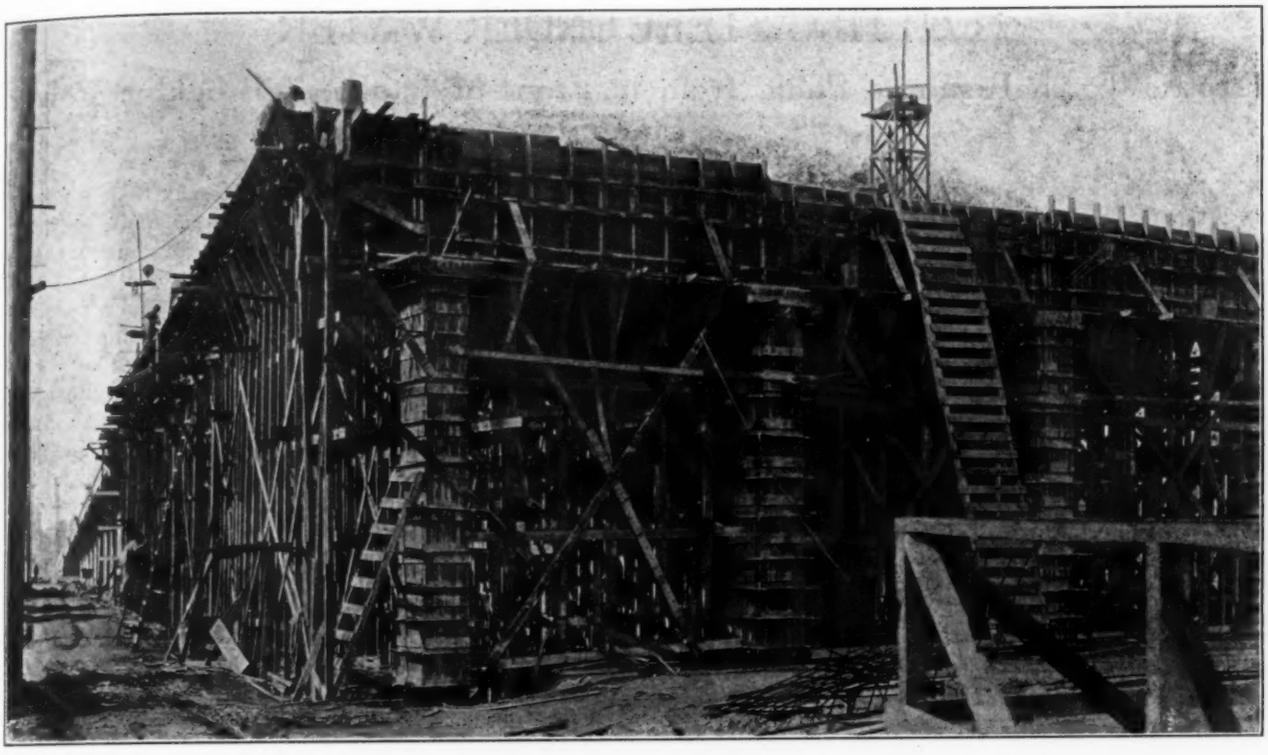
As shown in the photographs, the concrete was poured by the tower and chute method, a combination boom counterweight being used with straight line chute. Portable plants with short towers were mounted on skids and used to pour the approaches. The main tower is built of wood and is 160 ft. in height. It is so placed that the chute can be used for all three arches. The cover photograph on this issue of SUCCESSFUL METHODS gives an excellent picture of this operation. The plant has a capacity of about 250 cu. yd. of concrete per day, which has been maintained as an average.

Work was begun on the Ninth Street Viaduct in July of last year and it probably will be finished about August 1 of this year. The viaduct replaces an old steel bridge which is shown in one of the photographs.

The railroad tracks shown in this photograph have been depressed thus eliminating the dangerous grade crossing at the end of the bridge. The track lowering operation extends for a considerable distance beginning north of Macy Street and extending south of Ninth Street. The Union Pacific tracks have been lowered about 11½ ft. at Macy Street, 4 ft. at Ninth



POURING THE THREE ARCHES WITH CHUTE SUPPORTED BY BOOM AND COUNTERWEIGHT



ONE OF THE APPROACHES

Street and the Santa Fe tracks have been depressed about 8 ft. at Macy Street, 10 ft. at First Street and a little over 5 ft. at Ninth Street.

Bids for the construction of the Macy Street viaduct were received on May 11, and work on the second of the six structures probably will begin soon.

THE OLD STEEL BRIDGE SHOWING RAILWAY TRACKS BEFORE THEY WERE DEPRESSED

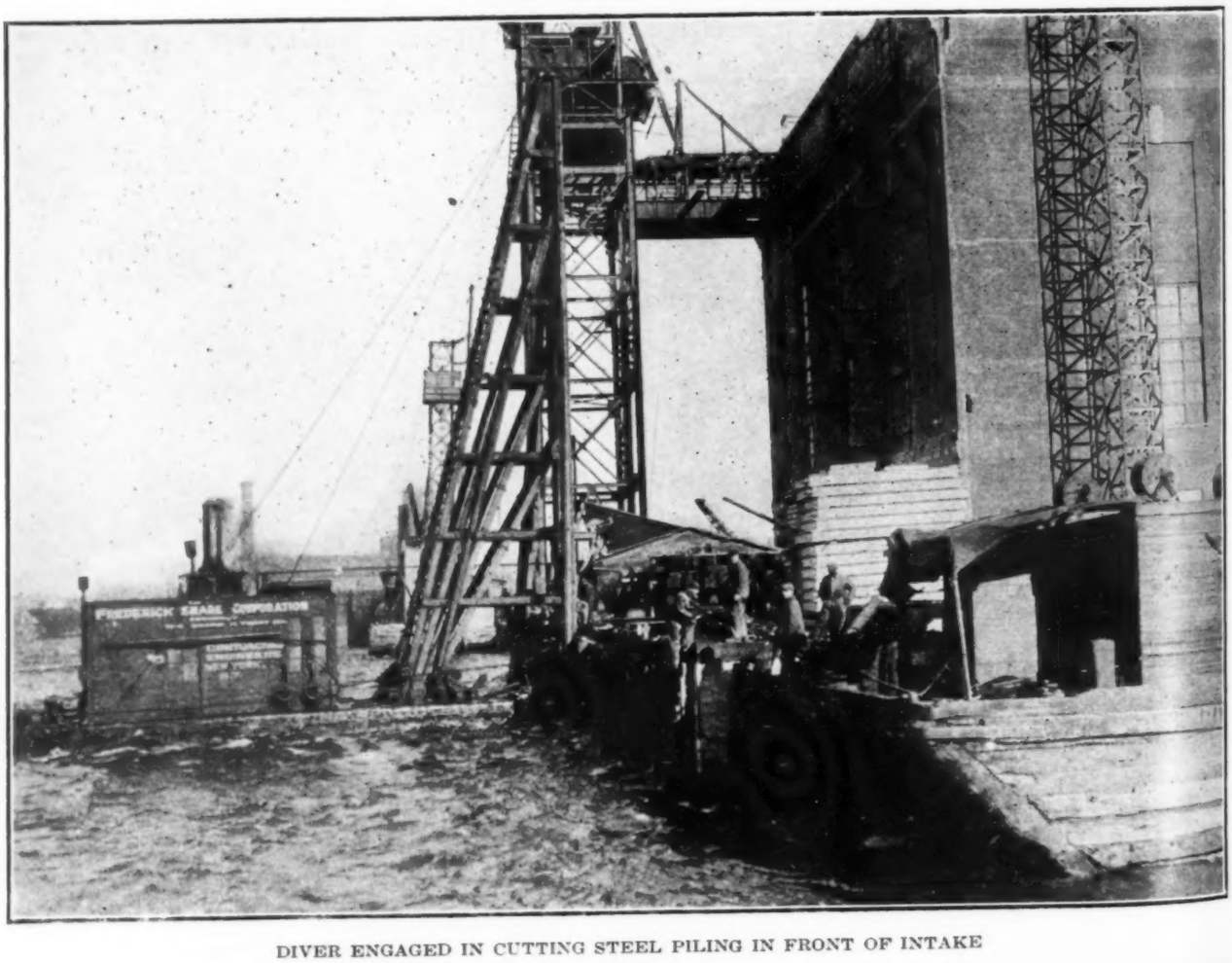
CUTTING STEEL UNDER WATER

Electric Torch Removes Piling from in Front of Intake of Brooklyn Power Station

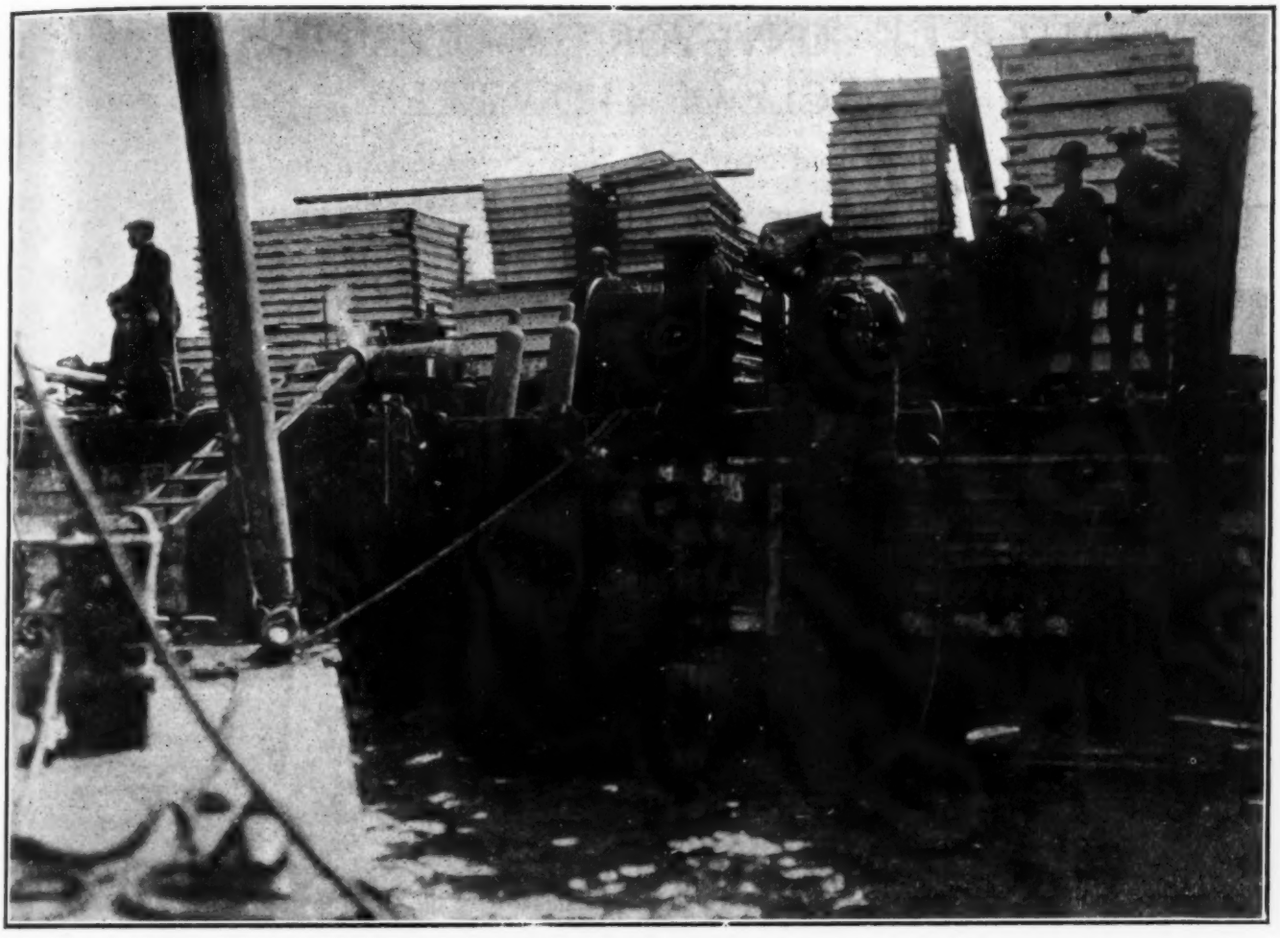
WHEN preparations were made to dig the enormous intake and outlet tunnels, necessary to convey 800,000 gal. per minute of cooling water from the East River to the condensers of the Hudson Avenue Power Station of the Brooklyn Edison Company, a cofferdam of 58 lb. steel sheet piles was driven along the river front. The construction of the tunnels and the placing of the revolving screens was then carried out in the dry, as the cofferdam was practically watertight.

SHEET STEEL PILING CUT BY ELECTRIC TORCH UNDER WATER

The current of the East River is extremely strong at this point, at times running 6 or 7 knots an hour. The engineers therefore decided that there was a possibility of this current underscouring the concrete foundation of the tunnels after the removal of the sheet pile cofferdam. To protect the foundation it was decided to cut the sheet piles underwater on a line with the bottom of the tunnels and leave the base of the piles in place. The line of the desired cut was 35 ft. under water and 150 piles



DIVER ENGAGED IN CUTTING STEEL PILING IN FRONT OF INTAKE



THIS PHOTOGRAPH SHOWS UPPER PORTION OF INTAKE AFTER STEEL PILING HAD BEEN CUT AWAY

had to be cut at this depth to uncover the intake.

Arrangements were made with a local contracting firm to do this work. An additional diver was obtained from the Merritt-Chapman & Scott Corporation. An oxyelectric underwater cutting outfit was installed on a welding barge that could furnish the necessary electric current, and the work started during the latter part of February.

The divers were handicapped by the intense cold, and the river current, which except at slack water, made it necessary for the divers to hold on the stage or scaffold with one hand while operating the torch with the other. Moreover, because of the cold and the fact that to operate the underwater torch, the divers had to remain in one position for some time, they quickly became chilled, and could not stay down for more than 30 min. at a stretch. In spite of these handicaps, the work progressed and was completed satisfactorily. The best day's work for one diver was eleven piles cut.

The underwater cutting outfit used on this job consists of a portable 50 kw. turbo-driven generating set, switchboard, resistance, conducting hose, oxygen gage and the necessary wire. The oxygen required is obtained from tanks and the steam necessary to drive the turbine can be obtained from a ship's boiler. The electric current may also be obtained from a welding barge or may be available on the job.

A ground wire from the generator is first made fast to the metal to be cut or to some metal in contact with it. The double conducting hose is then connected to the other lead from the generator and also to the oxygen supply. An electrode is inserted in the holder at the lower end of this hose, and the torch is ready for the diver.

The torch itself consists of a carbon electrode containing several tubes through which the oxygen can pass. This electrode is held in a brass holder which conducts both the electric current and the oxygen into the electrode.

When in position to cut, the diver strikes an arc upon the metal and releases the oxygen jet. The heat of the arc, even under water, is sufficient to melt the metal, and the oxygen under pressure forced upon this molten metal tends both to oxidize and to blow the metal out of the cut.

This oxyelectric torch has been used successfully to cut steel plate, sheet piling, cast steel and cast iron under water. It can be operated at any divable depth.

In the past this sort of work has been accomplished with considerable difficulty. It is an odd job for which the ordinary contractor is not equipped and in many cases the cost of cutting steel under water has proved far out of proportion in comparison with the remainder of the work. Various methods have been used in different parts of the country with an indifferent degree of success.

SMOOTH BELT CONVEYOR HANDLES PLASTER AT ANGLE OF 44 DEGREES

Carries Mortar to Third Story of New School Building in Denver

THERE are various ways of getting plaster into a building, and the pictures which accompany this article show the unusual method adopted by Henry & Feeley, who are subcontractors under P. J. Sullivan on the new Mitchell Junior High School at Thirty-second and Humboldt Streets, Denver, Colo.

A 60-ft. portable conveyor is being used for this purpose and it is successfully handling the plaster while working at an angle of 44 deg. This enables it to carry the plaster through the third-story windows of the building. The plaster is mixed on the ground, one man operating the mixer and distributing the plaster on the belt of the conveyor. The conveyor carries it to the inside of the building through the window and discharges it into a large wooden hopper.

LOOKING DOWN ON CONVEYOR AND MIXING PLANT

A small ¼-yd. car running on narrow-gage track within the building takes the plaster from the hopper to the place where it is used.

This conveyor, which is 60 ft. in length and has a belt 18 in. wide, began its work by carrying the plaster into the first story. Some doubts were expressed as to its ability to keep on with the job above the first story, but it has effectively disposed of these doubts by the way in which it has operated.

Formerly 15 men were employed to mix the plaster and get it into the building, but the installation of the conveyor has cut the number to three. A 15-hp. gasoline engine drives the conveyor belt and has given efficient service since the beginning of the job.

The various photographs show different details of the operation. The small photograph on page 8 was taken from the third story window looking directly down the belt, which is a smooth belt, and shows the wet plaster on its way up from the mixer. The large

PORTABLE CONVEYOR CARRYING PLASTER INTO THIRD STORY OF NEW BUILDING

LOADED BELT CARRYING MORTAR INTO FIRST STORY

photograph at the bottom of the same page gives a good idea of the angle at which the conveyor is working. The photograph in the upper left-hand corner of page 9 was taken when the plaster was being put into the first story and the other photograph shows the mixing crew at work with the conveyor carrying plaster to the third story.

A special scaffolding was erected to support the conveyor, but it would have been possible to do the same job with the regular wheels on which such conveyors are usually mounted. The newly finished brick walls of the building were protected from drippings by tarpaulins, which may be seen in the photographs.

This method of handling plaster on a big job has worked so smoothly and efficiently and has cut down the number of men necessary to such an extent that Henry & Feeley expect to use it on other similar jobs in the future.

THE PLANT AT WORK

ROAD SHOW TO BE HELD IN CHICAGO AGAIN

THE Annual Convention and Road Show of the American Road Builders' Association will be held Jan. 11 to 15, 1926, in Chicago. The Road Show, which has been steadily increasing in size for the last few years, will once more be held in the Coliseum and adjoining buildings. The place in which the sessions of the Convention will be held will be announced later.

Before deciding to go back to Chicago, the Executive Committee of the American Road Builders' Association canvassed the country thoroughly, as it was felt that a gathering so important to the nationwide highway industry should always be held in the same section of the country. It was found, however, that at the present time Chicago is the only city which can meet the specifications of the American Road Builders' Association in regard to hotel accommodations and exhibition space for heavy machinery. At the show held last January, more than three hundred carloads of machinery were displayed and the regis-

tration list showed that more than 16,000 persons interested in the various phases of highway construction and maintenance were in attendance.

W. H. Connell, Engineering Executive and Deputy Secretary of the Pennsylvania Department of Highways, the new president of the Association, has announced that the Convention will be carried on in two divisions, one covering the engineering side of road building, and the other the construction side. These two divisions of the Convention will be in session simultaneously in adjacent rooms. By handling the program in this manner, those interested in engineering can devote their entire time to engineering subjects, while those whose main interest is in construction may keep their attention fixed on that phase of the work.

DIGGING THROUGH HARD SHALE

Three Steam Shovels Handle Excavation for Big Power House Near Cleveland

THREE steam shovels working close enough together to get them into the same photograph mean that the job is a big one. The Hunkin-Conkey Construction Company of Cleveland has undertaken such a job in the excavation for a new power house for the Cleveland Electric Illuminating Company. This new power plant will be erected at a total cost of approximately $30,000,000 at Avon Beach on the shore of Lake Erie, between Cleveland and Lorain.

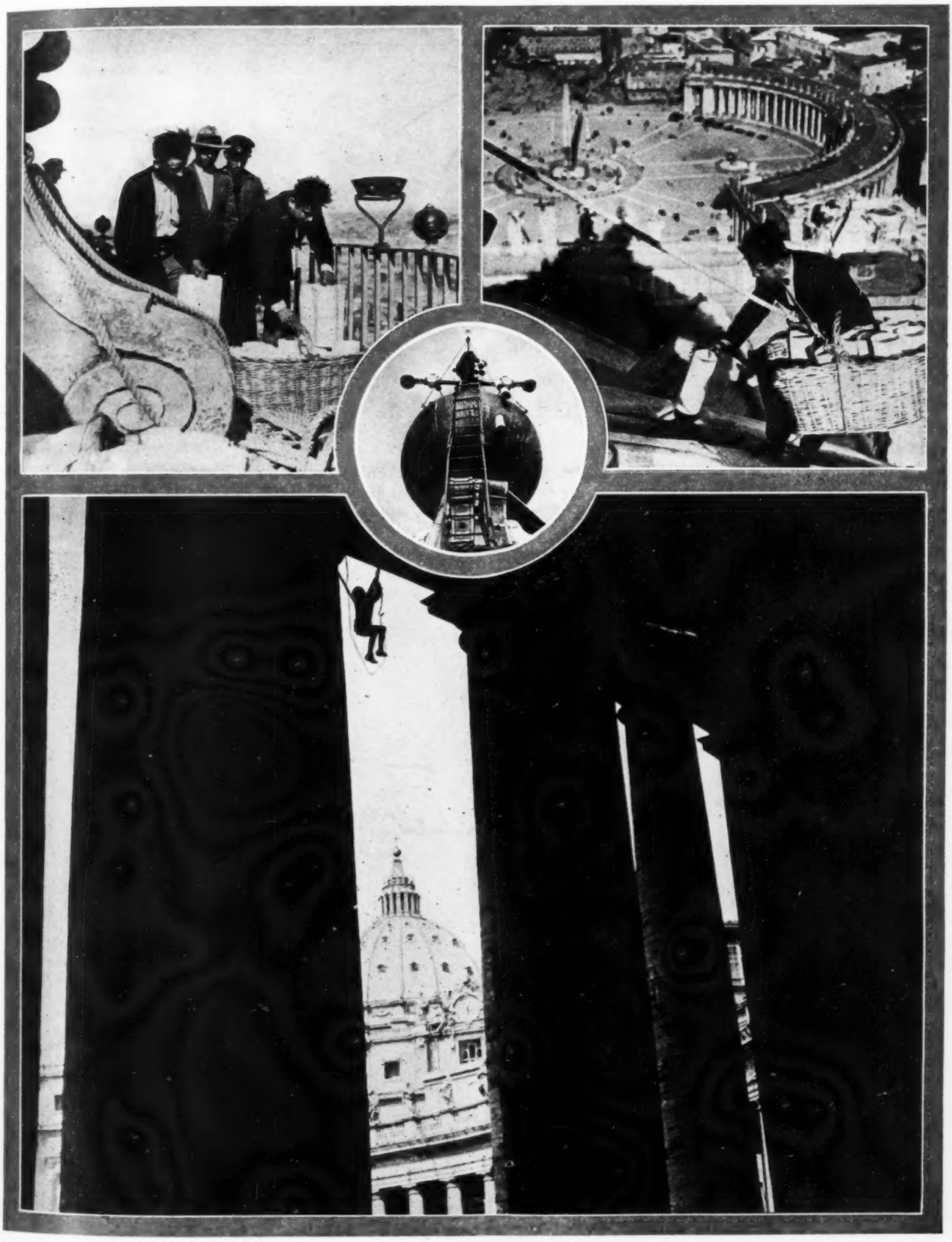
The material in which the excavation is being done consists of a hard blue shale and thus far the Hunkin-Conkey Company has been getting this material out at the rate of about 580 yd. per day per shovel. This shale in many cases comes out in slabs so big that a single slab constitutes an entire truck load. These big fellows are raised into the trucks by encircling them with chains and hooking the dipper teeth of the shovel into the chains.

At the time the photograph at the bottom of the page was taken, the three shovels were engaged in the main excavation, which is about 27 ft. in depth.

In addition to that, trenches about 18 ft. in depth below the bottom of the main excavation are being dug. Altogether there will be about 500 ft. of these trenches, which are about 15 ft. in width. The shovels have been equipped with a 32-ft. stick for cleaning the rock out of these trenches after it is loosened by blasting.

THREE STEAM SHOVELS ON SAME JOB

Construction Men Scale Dome of St. Peter's

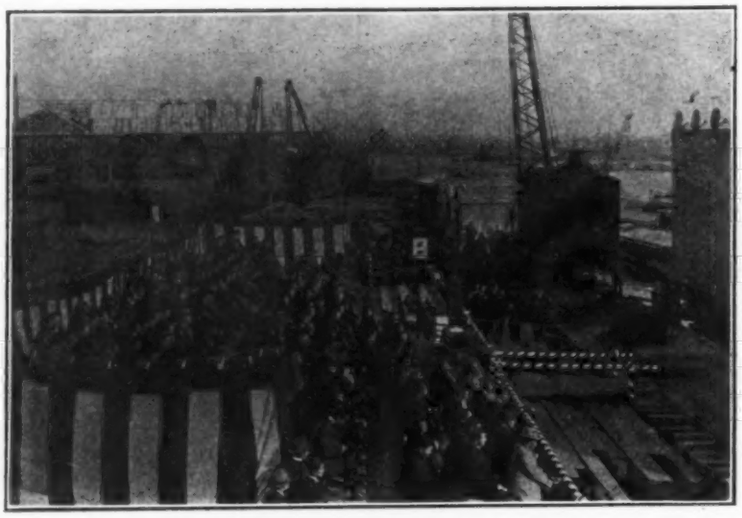


The recent illumination of the great church of St. Peter in Rome attracted world-wide attention. The decision to light it with ancient lamps instead of by electricity was the occasion of frequent comment. The photographs on this page show various phases of the work of placing the lamps, a task which was accomplished by men drafted from the construction industry. © P & A Photos.

TOKYO BUILDS TWO NEW BRIDGES

Foundation Company of New York Supervises Construction of Piers and Abutments

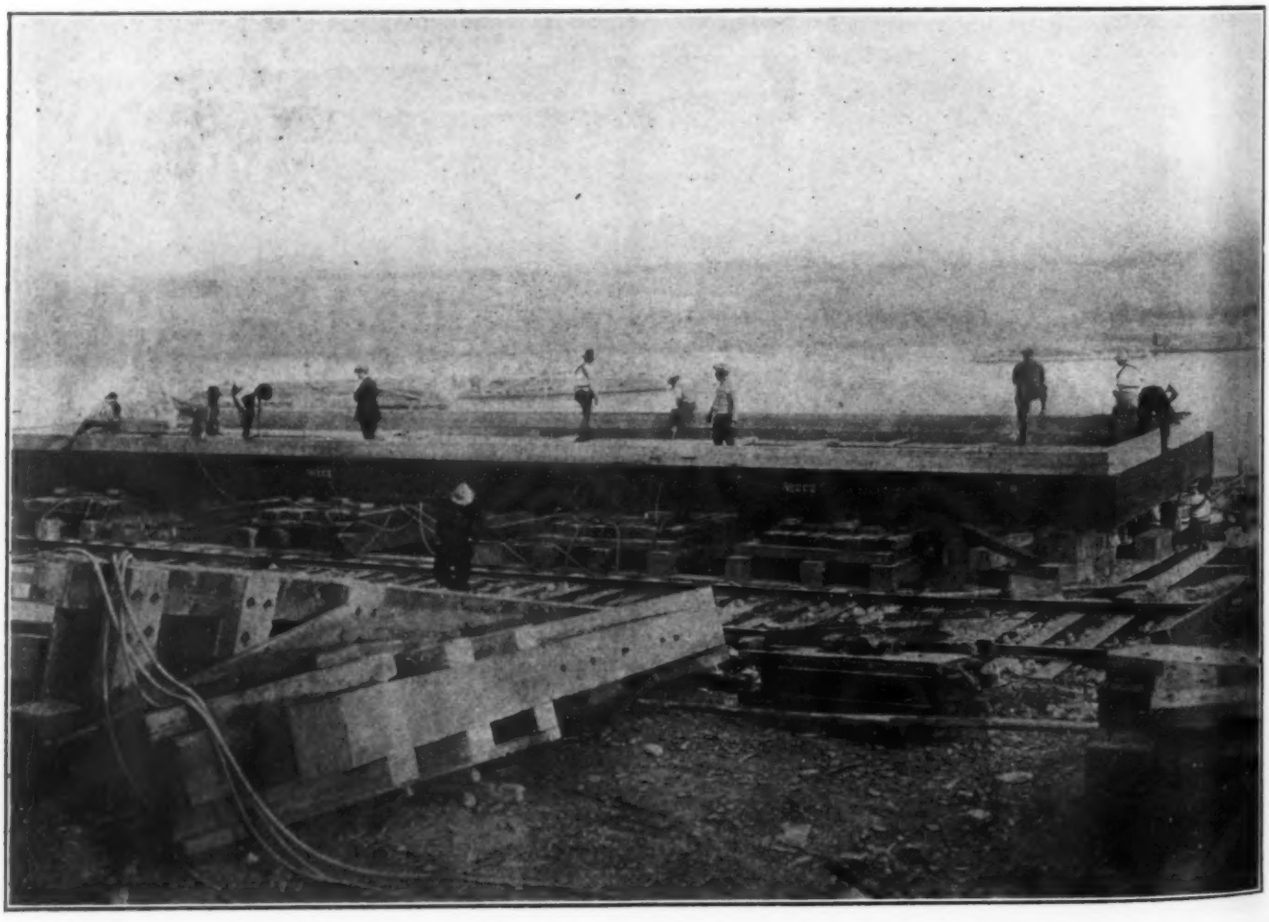
IN addition to its great reconstruction program made necessary by the earthquake the city of Tokyo is going ahead with considerable new construction, of which the Japanese Reconstruction Commission is in charge. Two new bridges are being built over the Sumida River which flows through Tokyo, and the Foundation Company of New York is supervising the construction of the piers and abutments of the two big structures.



READY TO LAUNCH THE FIRST CAISSON

The plant required for working under air pressure was sent to Japan from the United States and is being operated by Japanese contractors and workmen under the supervision of the Foundation Company.

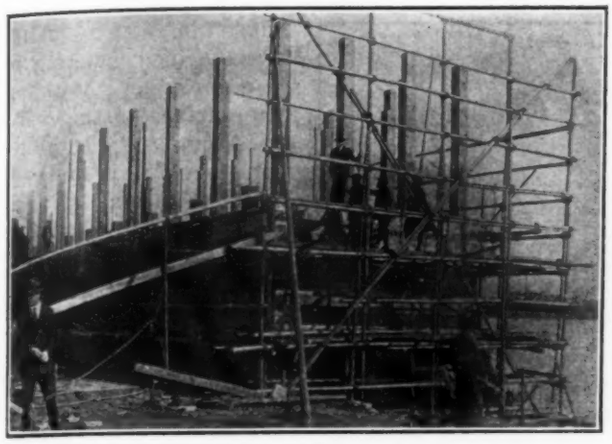
Each of the two bridges will have two river piers and two abutments constructed by the pneumatic caisson method. The Eitai Bridge is the first to be built and work is now under way. The cutting edge of the first caisson was laid on November 12, 1924, and a little more than a month later this caisson was launched with appropriate ceremonies conducted by the Japanese government. Both caissons were in position and had



THE FIRST STEP. LAYING THE STEEL CUTTING EDGE OF THE BIG CAISSON

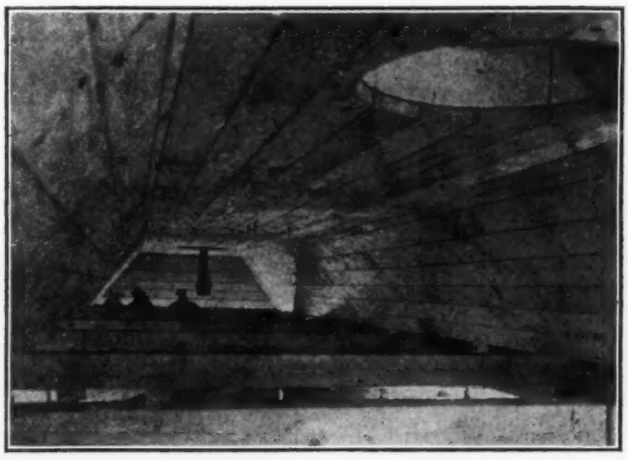
reached the point where air was put in on May 3 of this year.

The pier caissons are 80 ft. long and 20 ft. wide and the abutment caissons are 80 ft. long and 30 ft. wide. They will be sunk to an average depth of about 90 ft.



THE CAISSON AT THE HALF WAY POINT

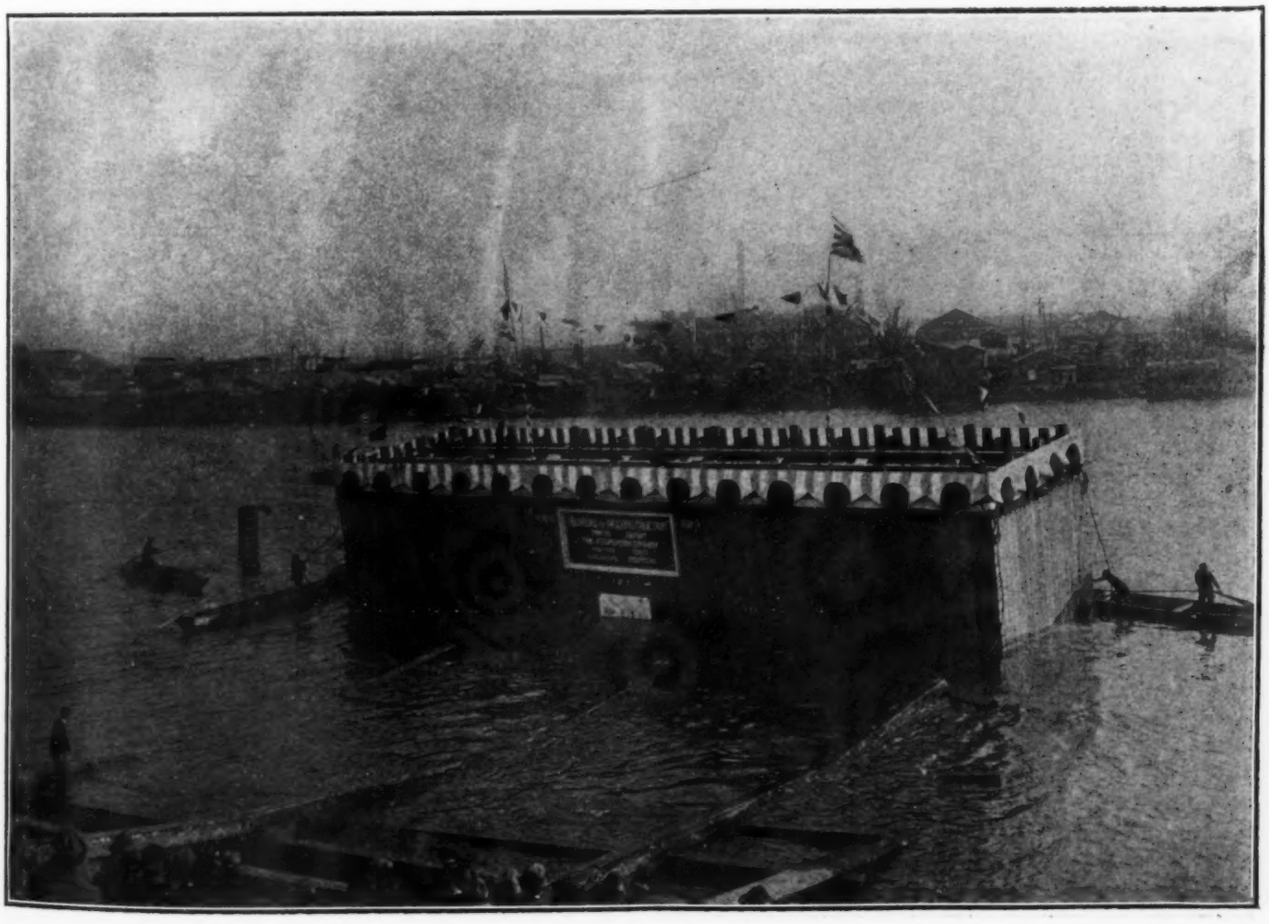
The photographs which accompany this article show the construction of the first caisson. The bamboo scaffolding and false work used in Japan is much in evidence. The work of constructing the caissons has progressed smoothly since the start. One of the photographs is an unusual one showing the upper part



INTERIOR OF CAISSON SHOWING MANHOLE IN TOP

of the working chamber inside the caisson. The men in the background give a good idea of the size of the big structure. This was taken the day before the caisson was launched.

As said before, the launching was made the occasion of a considerable ceremony at which representatives of the Japanese government expressed their appreciation of the work that had been done up to that time. As the photograph shows, the caisson was decorated with bunting and the Japanese flag was hoisted over it before it slid down the ways.



THE CAISSON AS IT TOOK THE WATER

MAINTENANCE METHODS ARE CONSTANTLY IMPROVING

Proper Scarification Is Important Factor in Keeping Old Roads in Good Condition

IMPROVEMENT in highway maintenance methods is constantly going on and the full importance of keeping roads in good condition after they have been built is being realized in all parts of the country.

The photographs on this page show a motor grader rebuilding a worn out stone road. The first step in this process is the scarifying which is shown in the upper photograph. In this case the work is accomplished by a scarifier which is attached to the rear of the motor grader.

SCARIFYING WITH MOTOR GRADER

The lower photograph shows the grader with the blade in action piling the scarified material in windrows and smoothing the surface of the road.

In too many places the tendency still is to dump new stone on the old surface and without the proper scarification. This does little good because no bond is obtained and the traffic soon kicks the loose material off the road into the ditches.

When the road is properly scarified before any new material is added, it is possible to form a bond between the new surfacing material and the old which holds it together.

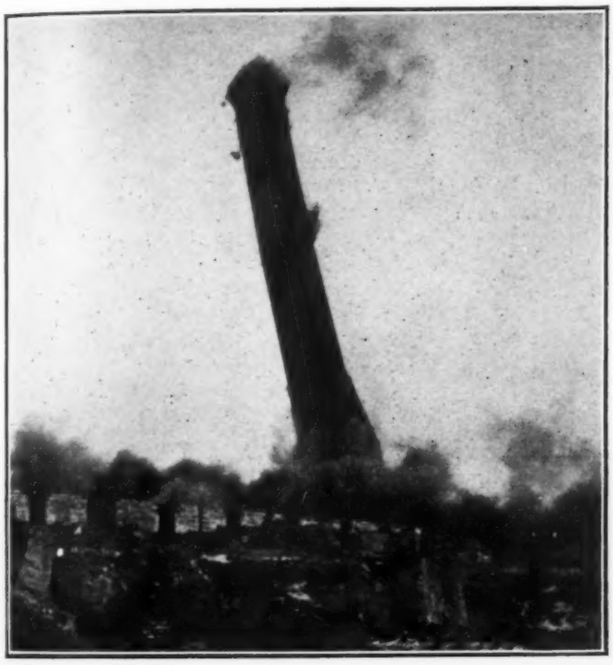
GRADING WITH ONE MAN MOTOR DRIVEN BLADE MACHINE

MAKING ROOM FOR NEW CONSTRUCTION

Two Big Stacks Destroyed with Dynamite

EVEN in Colorado, where the wide open spaces are supposed to be in abundance, it often becomes necessary to destroy old buildings in order to make room for new construction. The photographs on this page show the work of removing two large smokestacks of abandoned smelters at Pueblo. Dynamite was used to knock them over.

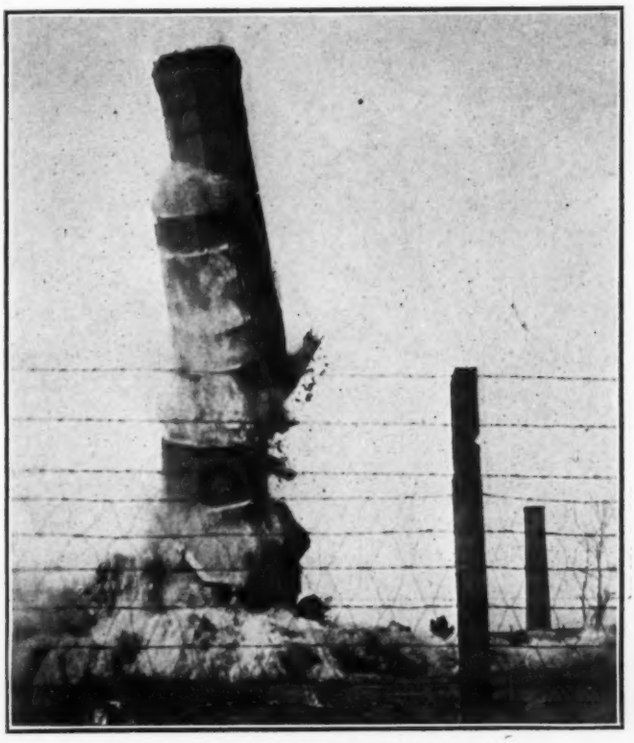
The photograph on the left shows a 200-ft. stack



THIS STACK FELL AS A UNIT

on the way down. A charge of 200 lb. of dynamite was used. The destruction of this particular stack was unusual in that the entire stack remained in one piece until it was a few feet from the ground. It fell like a giant tree.

The photograph at the right shows the destruction of the second stack, which fell in an entirely different manner. This stack broke into four sections when the charge was exploded. Three of the sections may be seen in the photograph, while the fourth



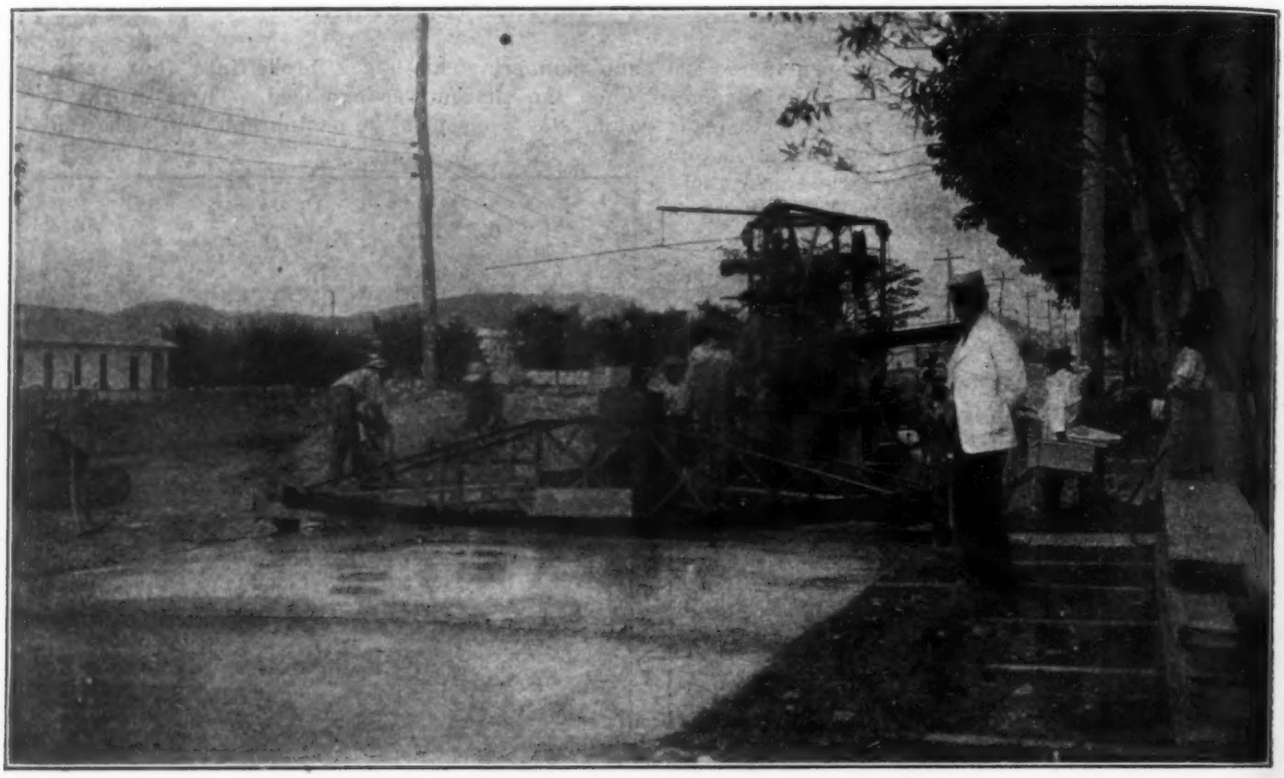
THIS ONE BROKE UP AND COLLAPSED

had already crumbled on the ground, causing the immense mass of dust shown in the photograph.

As usual, the dynamiting operation attracted a huge crowd which had to be kept at a safe distance until the work was completed. The picture at the bottom of the page shows the crowd swarming over the mass of bricks left after the destruction of the two stacks. The bricks obtained by destroying the stacks later were used to build a 10-room private school.

THE CROWD PICKED UP A FEW THRILLS

A WELL EQUIPPED PAVING JOB



Machines Handle Every Part of Work in Santiago de Cuba

A STREET paving job which is being paid for directly by the residents along the street being paved without assistance from the Government, is under way in Vista Alegre, a residential suburb of Santiago de Cuba. The cost of the job, $84,000, has been underwritten voluntarily by the owners of the property along the Avenida de la Republica. A concrete pavement 6 in. thick is being laid.

The contractor who is handling this work is Juan Real, Consulting Engineer of Santiago de Cuba, and he is using machinery brought from the United States. A big paving mixer, a finishing machine, a grader, two 5-ton trucks, two 1-ton trucks and a gasoline road roller are engaged on the job. The street is nine blocks in length and consists of a pavement 20 ft. in width on each side of a raised sidewalk 10 ft. wide. This sidewalk will be illuminated by electric lights set on ornamental posts.

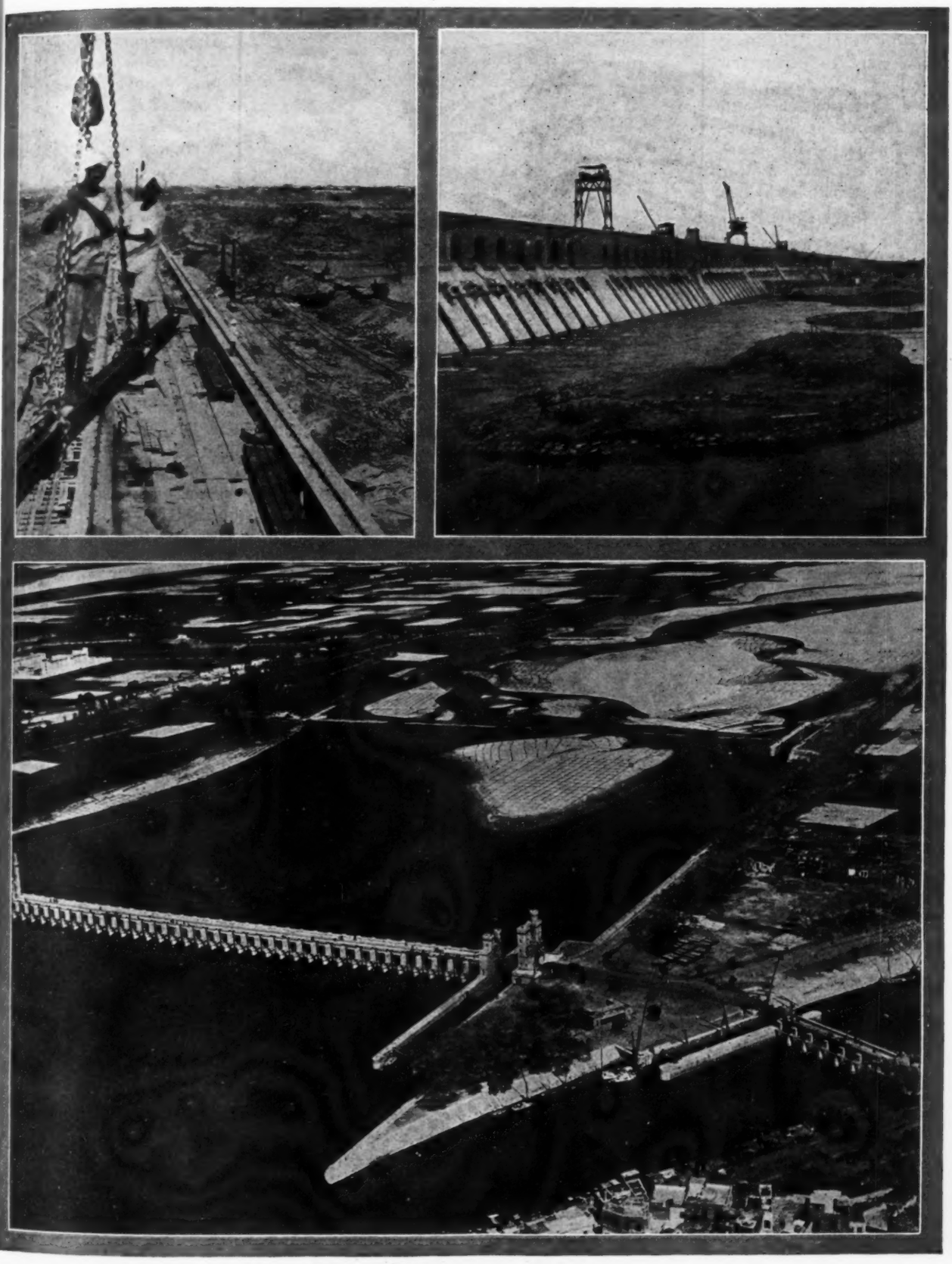
A HOT WEATHER SUGGESTION

WHETHER or not the equipment shown in the accompanying photograph will be standard on summertime construction jobs is a question which time and custom will have to decide. It may be that before long any contractor bidding on a job will have to figure in the cost of umbrellas for all his men. This amount, however, might be equalized by the decrease in the cost of liability protection due to the fact that men working on high buildings could use their umbrellas as parachutes in case of a fall.

© P. & A.

The workman who invented this highly successful device for keeping cool in spite of wearing a vest while on the job is an Englishman. He happened to be working in Fleet Street where the London newspapers are published, and so had no chance of escaping the photographers.

Controlling the Nile



The three photographs on this page show the work on the great Sennar Dam on the Blue Nile in Egypt. This dam will regulate the flow of the famous river and provide irrigation for a vast acreage which is now dry. © *International.*

MOVING A POWER LINE WITH THE JUICE ON

Crane Mounted on Motor Truck Cuts Costs on Difficult Operations

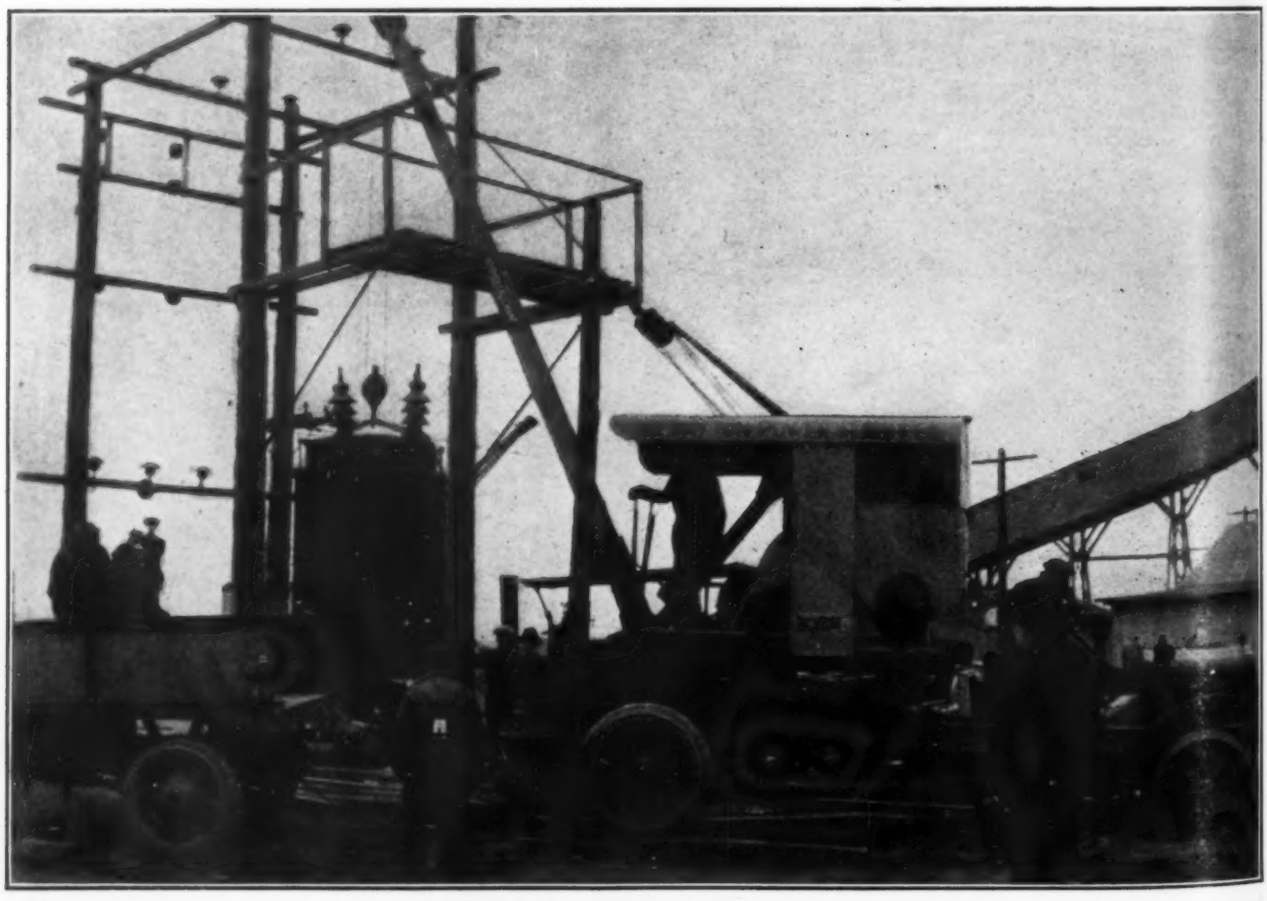
THE decision of the Ohio State Highway Department to widen the 6 miles of highway between Martinsville and New Vienna, Ohio, created a pole moving problem for the Dayton Power and Light Company. The plans for the new road called for a width of 60 ft., which made it necessary for the power company to move its pole line back a distance of 10 or 12 ft. As this was an extremely important side line, it was necessary to keep it in service during the new operations and as it was a three-phase line carrying 13,000 volts, the task of moving the poles while the line was still energized presented some exceedingly difficult features.

READY TO START FOR THE JOB

The power company first obtained a contract price of $22 a pole and then decided to do a little experimenting with its own equipment to find out whether or not the job could be done more economically. A side line of minor importance, which could be de-energized for a short time if necessary, was selected for the experiment and the company repair crew was set to work to determine the fastest, safest and best method of moving the poles.

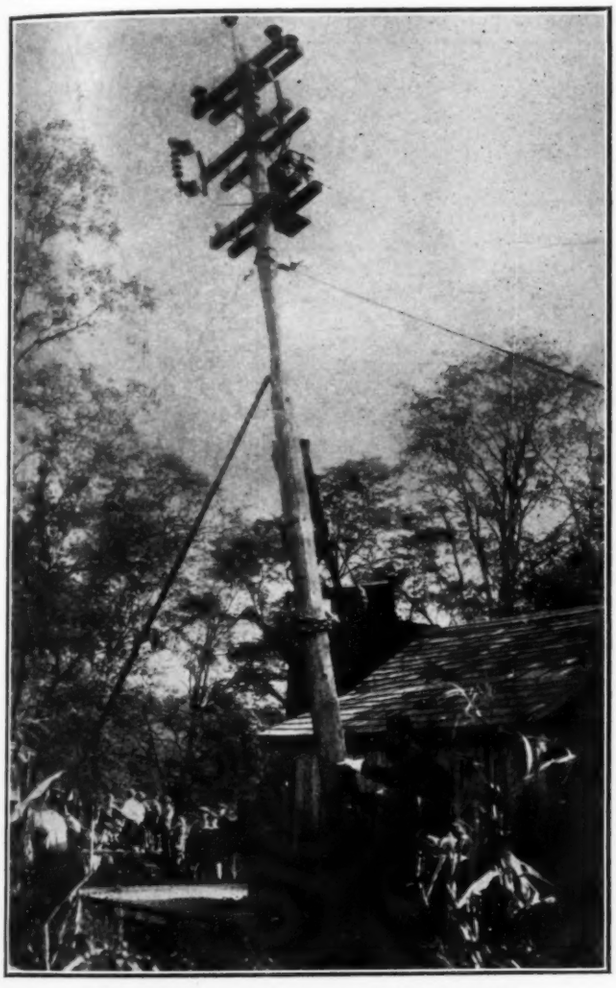
After tests of various methods, the crew decided to use the company's motor truck mounted crane which, because of its mobility, was able to travel along with the job and could perform both the pole pulling and resetting operations at one time. This machine is used for general utility work by the company, and one of the photographs shows it engaged en handling heavy transformers.

The line consists of 30 ft. lead line with poles 200 ft. apart and without de-energizing it the work was started. A shovel crew went ahead and dug new holes opposite the old position. The crane was then driven into position at an angle of about 30 deg. to the line. A hitch was taken about the pole and extra



HANDLING HEAVY TRANSFORMERS

power was gained with an extra sheave block between the boom and the hitch. This made it possible to pull the pole from the hole smoothly without sinking the poles or the wires. Two or three ground men equipped with pike poles then pushed the base of the pole over the new hole where the crane placed it



HANDLING A POLE IN A TIGHT CORNER

PLACING A POLE IN ITS NEW POSITION

and held it into position where the necessary backfilling was done.

When the work was done a careful check of the cost was made and it was found that the poles had been moved at a total cost of only $15 per pole, a saving of $7 or 22 per cent of the contract price. The service on the line was not interrupted a second by the job.

On another similar job done by the Clinton Telephone Company hand labor was used and the costs were 40 per cent higher.

The progress of the job was watched with great interest by the State Highway Department and it is expected that this method of pole moving will be used in other sections.

CANADA WELCOMES AUTOMOBILISTS FROM THE UNITED STATES

THE highway branch of the Department of Railroads and Canals of the Dominion of Canada has recently issued a report which gives some interesting figures in regard to the number of automobiles in the United States which enter Canada each year. These statistics show that the increase of motor tourist traffic from the United States into Canada since 1920 has been remarkable.

The increase of automobiles entering for a 6 months' period has grown 34 per cent; for the two 30 days' period, 290 per cent and for the 1-day period 272 per cent. Last year 2344 motor touring parties entered Canada for the one 6 months' period, 361,630 for the two 30 days' period, and 1,534,885 for the 1-day period.

Realizing the importance of encouraging traffic of this sort the highways branch of the Department of Railroads and Canals urges a continuing improvement of Canadian roads.

The regulations of the Canadian Customs Department provide three temporary periods of admission for automobile tourists. A car may be entered at any Canadian port of Customs for touring purposes for a period not exceeding 24 hours by the simple process of surrendering the owner's state license card which is handed to him on his return journey.

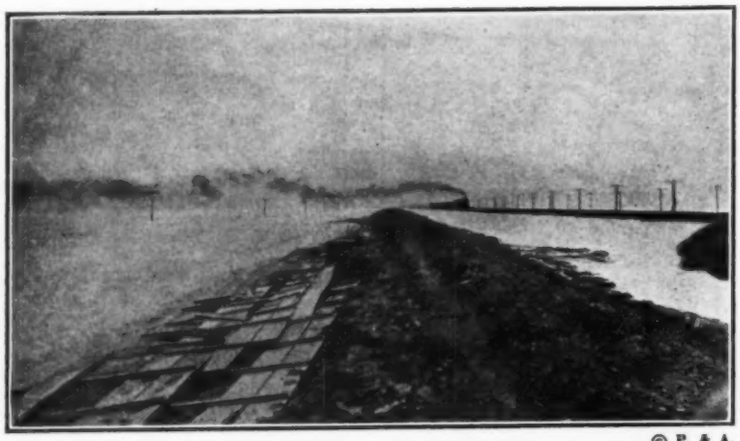
The second period provides for from two days to two months, and the third is a 6 months' period. The automobile of any tourist not returning within the time limit is subject to seizure, and any unforseen delays should be communicated at once to the Canadian Customs Department at Ottawa.

Tourists are allowed to bring with them guns, fishing rods, canoes, tents, cooking utensils, etc.

SECRETARY JARDINE AND TWO GOVERNORS OPEN WENDOVER ROAD

Notables, Armed with Silver Shovels, Remove Final Barrier of Salt

ONE of the most notable road improvements of recent years was turned over to the public on June 18 when William M. Jardine, Secretary of Agriculture, Governor George H. Dern of Utah and Governor J. G. Scrugham of Nevada officially opened the Wendover Cutoff. This road was built by the State of Utah with the assistance of Federal Aid funds.



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SECTION OF THE WENDOVER ROAD UNDER CONSTRUCTION

It extends across the great salt desert and an unusual feature is a 6-mile stretch of construction across the salt beds which are subject to flooding to a considerable depth. The depth of the salt varies, but averages about 3 ft. The embankment for this

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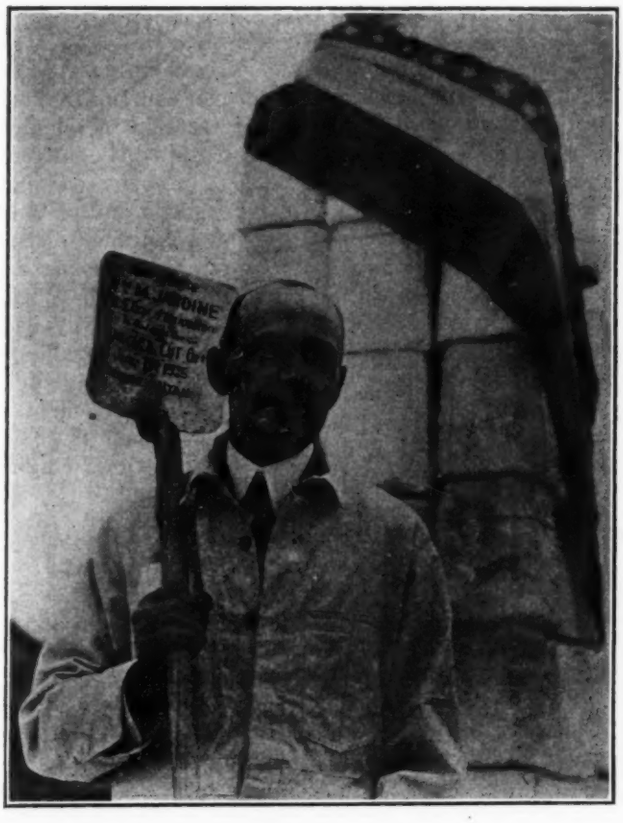
THE ARCH OF SALT OVER THE FINAL BARRIER

section of the highway was made by a trenching machine and wooden culverts through the embankment are used to equalize the water level on both sides at the times of the year when the salt beds are flooded.

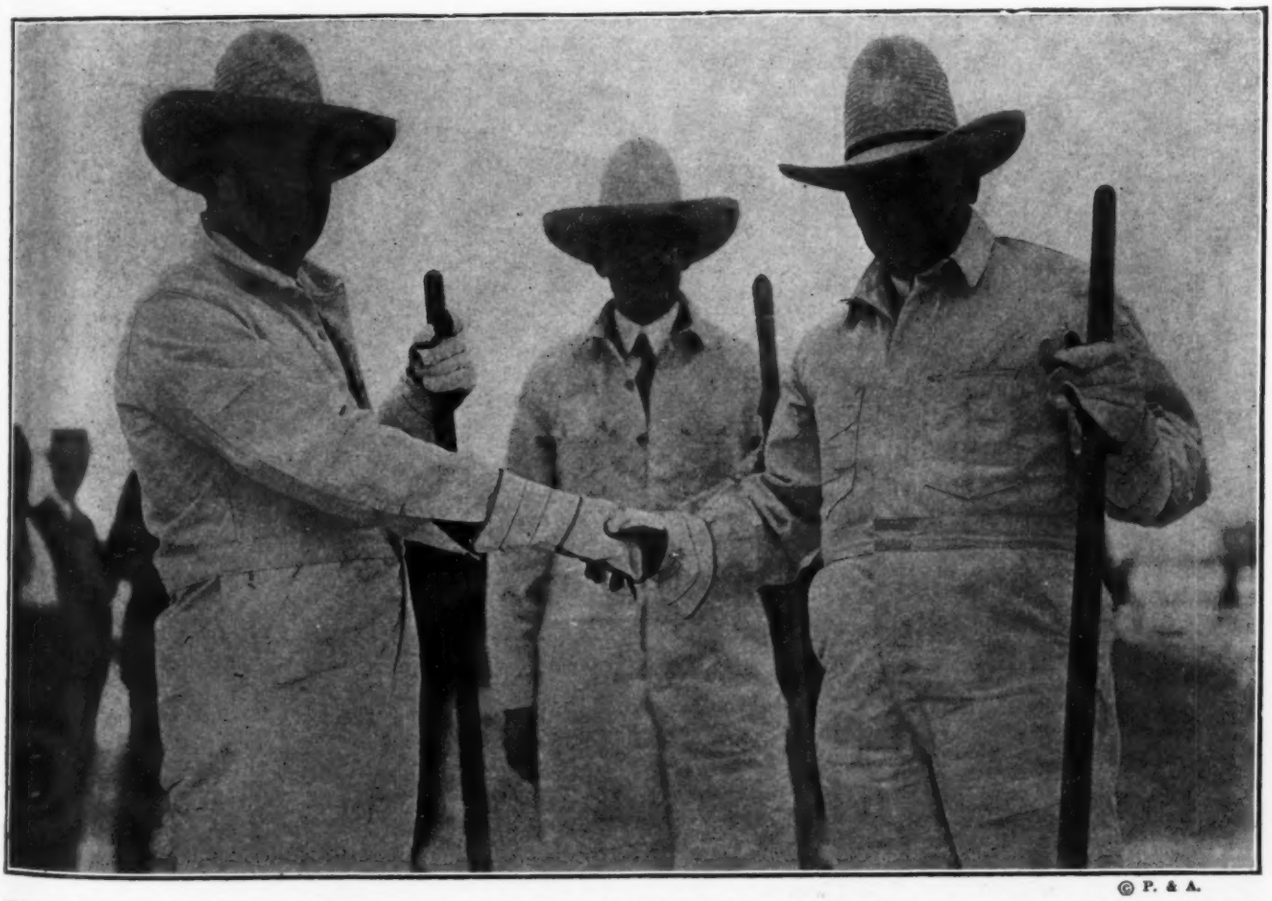
The small photograph on page 20 shows the embankment during construction with the salt beds on either side. At this point the road parallels the railroad.

The other photographs show the opening ceremonies at Salduro, Utah. An arch of salt was erected over the final barrier of salt in the middle of the highway. Secretary Jardine and the two Governors then shoveled away the salt with silver shovels. The Wendover Road is one of the units of the Victory highway and materially shortens the route across Utah and Nevada.



The Wendover Road is about 40 miles in length and is in two sections, one extending from Wendover, the western terminal of the road, eastward past Salduro. One of the interesting features of the work has been the variety of machines used on the job and the great amount of construction which has been accomplished entirely by machinery. Tractors, graders, ditchers, draglines and cranes—to mention only a few of the larger units — all have their share in building the Wendover Road.

The work has been done under Howard C. Means, Chief Engineer of the Utah Road Commission.



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THE UPPER PHOTOGRAPH SHOWS WM. M. JARDINE, SECRETARY OF AGRICULTURE, WITH HIS SILVER SHOVEL; BELOW, THE THREE MEN ARE (LEFT TO RIGHT) GOV. GEORGE H. DERN OF UTAH, SECRETARY JARDINE AND GOV. J. G. SCRUGHAM OF NEVADA

FORESIGHT PLUS EFFICIENCY

THE ability to handle situations that are out of the ordinary is a good test of the efficiency of any organization. The Indiana State Highway Department proved not only its efficiency but also its foresight by making special preparations for the heavy traffic on the state roads during the days immediately preceding and following May 30, the date of the annual automobile races on the Indiana speedway.

The Department issued special instructions to all of its field forces. These instructions dealt especially on the necessity of seeing that the roads were marked so that automobilists from other states would have no difficulty in finding their way.

Some of these instructions read:

"See that all roads are properly marked with guide and direction signs to aid foreign traffic in following the proper course. Don't permit an unmarked corner or an intersection to remain where foreign traffic would be in doubt. All dangerous places should be posted so as to prevent accidents. Remember that foreign traffic is not familiar with the roads and will depend solely upon proper directions and warning signs.

"See that all roads are in suitable condition for traffic and that the surface of all gravel and stone roads are sufficiently dragged to make them smooth before this heavy traffic goes over them. Don't permit a chuck hole or ridge across a road, nor a dangerous rut alongside pavement. It is imperative that more dragging be done in some places than in others."

C. Gray is Chief Engineer of the Department.

A STUDY IN EXPRESSIONS

IN the June issue of SUCCESSFUL METHODS a short article described the unusual method used by a British constructor to speed up his workmen. He had moving pictures taken of the job and then showed them to the men—putting up a screen right on the job. Just too late for publication in that issue, the photograph which appears below was received. It shows a group of the men watching the pictures of themselves at work. The expressions on the faces of the men are so well worth study by anyone engaged in construction work that the picture is printed herewith.

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SEEING THEMSELVES AS OTHERS SEE THEM